

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Holzbach, Mark E.; Chen, David T.  
 Assignee: Zebra Imaging, Inc.  
 Title: Rendering Methods For Full Parallax Autostereoscopic Displays  
 Serial No.: Unassigned Filing Date: Herewith  
 Examiner: Unassigned Group Art Unit: Unassigned  
 Docket No.: M-8621-1D US Client Ref. No.: 172

---

San Jose, California  
 January 28, 2002

BOX PATENT APPLICATION  
 COMMISSIONER FOR PATENTS  
 Washington, D. C. 20231

**PRELIMINARY AMENDMENT**

Dear Sir:

Prior to examining this patent application, please enter the following amendments and consider the following remarks.

AMENDMENTS*In the Specification*

The first paragraph on page 1, is changed as follows:

RELATED PATENT APPLICATION

This application is a division of Application No. 09/474,361, filed December 29, 1999, which claims the benefit of U.S. Provisional Application No. 60/114,133, filed December 30, 1998 and entitled "RENDERING METHODS FOR FULL PARALLAX SPATIAL DISPLAYS".

*In the Claims*

10058710-012802

Please cancel claims 12-17.

Please amend the claims as follows:

10. (Amended) A full parallax autostereoscopic print of a digital scene, whose image data is rendered according to the following steps:

- defining an image plane that passes through at least a portion of said scene;
- dividing the image plane into a plurality of contiguous image elements;
- simulating two camera frustra on opposing sides of said image plane, each camera frustrum having an associated eyepoint;
- defining a near clipping plane of said frustra on said image plane;
- for each of said contiguous image elements, determining a distance between said eyepoint and said near clipping plane that would avoid near clipping of said scene, thereby determining a set of near clipping plane distances;
- positioning said camera frustra along said z axis in accordance with one or more of said near clipping plane distances;
- generating, for each of said contiguous image elements, image data for each of said cameras; and combining said image data, thereby rendering said scene.

11. (Amended) A computer-readable medium whose contents cause a computer system to render image data for a full parallax autostereoscopic display, by performing the steps of:

- defining an image plane that passes through at least a portion of said scene;
- dividing the image plane into a plurality of contiguous image elements;
- simulating two camera frustra on opposing sides of said image plane, each camera frustrum having an associated eyepoint;
- defining a near clipping plane of said frustra on said image plane;
- for each of said contiguous image elements, determining a distance between said eyepoint and said near clipping plane that would avoid near clipping of said scene, thereby determining a set of near clipping plane distances;

positioning said camera frustra along said z axis in accordance with one or more  
of said near clipping plane distances;  
generating, for each of said contiguous image elements, image data for each of  
said cameras; and  
combining said image data, thereby rendering said scene.

10056710-012802

REMARKS

Claims 1-11 are pending. Claims 12-17 have been cancelled. Claims 10 and 11 are amended to correct a formal matter. The applicants respectfully submit that these amendments in no way change the intended scope of coverage of claims 10 and 11.

The specification has been amended as illustrated above and in the Appendix. No new matter has been added.

In view of the claims set forth herein, the application is believed to be in condition for allowance and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the Examiner is invited to telephone the undersigned.

EXPRESS MAIL LABEL NO:

EL830059253 US

Respectfully submitted,



Marc Ascolese  
Attorney for Applicant(s)  
Reg. No. 42,268

10056710-013302

Appendix: Version with Markings to Show Changes Made

The first paragraph on page 1, is changed as follows:

RELATED PATENT APPLICATION

This application is a division of Application No. 09/474,361, filed December 29, 1999, which claims the benefit of U.S. Provisional Application No. 60/114,133, filed December 30, 1998 and entitled "RENDERING METHODS FOR FULL PARALLAX SPATIAL DISPLAYS".

In the Claims

Please cancel claims 12-17.

Please amend the claims as follows:

10. (Amended) A full parallax autostereoscopic print of a digital scene, whose image data is rendered according to the following steps:

- defining an image plane that passes through at least a portion of said scene;
- dividing the image plane into a plurality of contiguous image elements;
- simulating two camera frustra on opposing sides of said image plane, each camera frustrum having an associated eyepoint;
- defining a near clipping plane of said frustra on said image plane;
- for each [image element]of said contiguous image elements, determining a distance between said eyepoint and said near clipping plane that would avoid near clipping of said scene, thereby determining a set of near clipping plane distances;
- positioning said camera frustra along said z axis in accordance with one or more of said near clipping plane distances;
- generating, for each of said contiguous image elements, image data for each of said cameras; and combining said image data, thereby rendering said scene.